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BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

PUBLIC UTILITIES
COMMISSION

----- In the Matter of -----)	PUC Docket No. 2009-0108
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PUBLIC UTILITIES COMMISSION)	
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Instituting a Proceeding to Investigate)	
Proposed Amendments To the Framework for)	
Integrated Resource Planning)	
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FINAL STATEMENT OF POSITION
OF
HAWAII RENEWABLE ENERGY ALLIANCE
AND
CERTIFICATE OF SERVICE

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I. INTRODUCTION

The Commission, by its Order filed on May 14, 2009, opened the instant docket hereafter referred to as the "IRP" docket. The Commission, by its Order filed on November 28, 2009, granted the May 14, 2009, motion of Hawaii Renewable Energy Alliance ("HREA") to intervene in the IRP docket.

Per the proposed Stipulated Procedural Order and Schedule filed by the Parties on September 11, 2009, as modified by the Commission in its order, dated September 23, 2009, HREA respectfully submits its Final Statement of Position ("FSOP"). That said, HREA does not view its FSOP as "final" and looks forward to further discussion and collaboration in the panel hearings, and the briefing process.

II. HREA's FINAL STATEMENT OF POSITION

Regarding the issues as stated by the Commission its Order approving the Stipulated Procedural Order, as modified, HREA stands on its position as presented in our Preliminary Statement of Position ("PSOP") filed on October 2, 2009. We therefore incorporate our PSOP by reference into this FSOP.

In our PSOP, we did not provide a detailed set of proposed revisions and a “mark-up” of the original 1992 IRP Framework. Instead, we focused on proposed revisions to the “Governing Principles,” under the assumption that if the Parties were unable to reach agreement on “principles,” it would be quite hard to agree on proposed revisions to the Framework. Subsequently, we have found it productive to focus initially on a discussion of the principles with a number of the Parties, which we will refer to herein as the Blue Planet Group¹.

A significant output of the collaboration of the Blue Planet Group is the creation of the “Joint IRP Framework,” which we have attached to this FSOP. In our view, Joint IRP Framework is a “work in progress” built on the objective to achieve, starting with the Blue Planet Group, as much consensus as possible. We contributed to and generally support the Joint IRP Framework. While we do have some comments and concerns on the Joint IRP Framework, we support it as the best vehicle for further discussion and collaboration among all the Parties on the instant docket.

HREA would now like to present and discuss our:

1. comments and concerns on the Joint IRP Framework, and
2. response to the questions posed by the National Regulatory Research Institute (“NRRI”) in Appendix C of its paper entitled: “Clean Energy Scenario Planning: Thoughts On Creating A Framework”

¹ The Blue Planet Group, facilitated by the Blue Planet Group, includes a number of Intervenor who have met several, make that many, times to discuss the issues on the instant docket.

COMMENTS AND CONCERNS ON THE JOINT IRP FRAMEWORK

As noted above, HREA views the Joint IRP Framework as a “work in progress” and as appropriate starting point for further discussion. Given that, HREA believes there should be further discussion on the following items:

1. **Definitions** The Blue Planet Group struggled some with the definitions, i.e., do we define terms as we go along, so it is clear what it is that we are seeking to agree to, or do we wait until we have agreed on the overall elements and text of the Joint IRP Framework? While this may not appear to some to be that critical an issue, HREA has been striving to seek a happy medium between the two “book-ends.”
2. **Legal Standing for Intervenor**. In HREA’s PSOP, we supported a strong mechanism, such as an open intervention process from the initiation of a new IRP process through to approval of the IRP by the Commission, for ensuring that Intervenor input would be valued and used. The Joint IRP Framework, as currently written, addresses our concerns.
3. **Advisory Group Membership**. Industry, such as the renewable energy industry, should be listed in Section III.E.1.c.(2) as eligible for Advisory Group membership.
4. **Number of IRPs**. The Joint IRP Framework leaves the number of IRPs “open,” while implying at least one per utility or one per island. As in our PSOP, we believe there should a separate IRP for consideration of inter-island transfer of electrical energy. We are interested in the view of the other Parties.
5. **Intervenor Funding**. The Joint IRP Framework expands on the concept of Intervenor Funding from the original 1992 Framework. However, we do not believe associations of for-profit companies, such as HREA, should be excluded from access to Intervenor Funding. This has not been the case before. We have limited resources and could greatly had to IRP records if allowed Intervenor Funding.

RESPONSE TO NRRI QUESTIONS

NRRI posed thirteen questions in Appendix C of the November 3 paper entitled “Clean Energy Scenario Planning: Thoughts on Creating a Framework.” The questions and HREA’s response is presented below. HREA’s response to the questions is with respect to the Joint IRP Framework, taking into consideration HREA’s comments and concerns on the Joint IRP Framework as presented and discussed above.

- 1. Does the proposed framework provide a reasonable process for defining the question(s) that the CESP must answer?**

HREA Response. Yes. In Sections III.A and III.B.1.b, of the Joint IRP Framework includes provisions for the utility and the IRP participants, with assistance by an Independent Facilitator (Section III.E.1.b.), and the Commission to identify specific questions for each planning cycle of IRP².

- 2. Does the proposed framework enable the Commission to meet its statutory requirements regarding the review and establishment of RPS and EEPS targets?**

HREA Response. Yes. HREA believes the Joint IRP Framework includes provisions for planning information necessary for the Commission’s review of the RPS and EEPS targets. However, specific language may need to be included, as RPS and EEPS are not specifically cited as goals in the planning, implementation and evaluation processes. There has also been discussion about memorializing RPS, EEPS and other state energy policies in IRP, for example, in an Appendix to the Framework which could be updated periodically without having to take specific IRP docket action. This is an example, we believe, of an item that could be addressed in the “final editing” of the Joint IRP Framework.

² While referred to above by NRRI as CESP, HREA prefers IRP.

3. Does the proposed framework provide a reasonable process for defining a starting point for scenario planning?

HREA Response. Yes. In Section II.B.1.b of the Joint IRP Framework, the starting point for scenario planning is described as one of the initial tasks in each 3-year planning cycle. HREA notes that the Advisory Group, with the assistance of an Independent Facilitator, would review and provide stakeholder input in scenario planning, and the utility would schedule and conduct public meetings to solicit comments on scenario planning from the public in general.

4. Does the proposed framework provide a reasonable process for discovering a plausible range of uncertainties and trends?

HREA Response. Yes. Uncertainties, along with risks, are included as an element in the planning process (Section III. A.1. of the Joint IRP Framework), as a component of the IRP to be submitted to the Commission (Section III.D), and as a Planning consideration (Section IV.G). Trends are not specifically discussed in Joint IRP Framework. However, we believe the discovery and analysis of predetermined trends is an anticipated output of scenario planning in support of overall strategies as suggested by NRRl in the context of their question.

5. Does the proposed framework differentiate between uncertainties and predetermined trends?

HREA Response. As noted in our response to question 4. above, the Joint IRP Framework provides for identification of uncertainties, but not specifically for predetermined trends, and consequently, there is no discussion on differentiating between them. Thus, HREA believes this NRRl recommendation should be discussed further among the Parties.

6. Does the proposed framework provide a reasonable process for identifying the drivers of uncertainty that make a difference?

HREA Response. Yes. As noted in our response to question 4. above, the Joint IRP Framework provides for identification and analysis of uncertainties as an important element of scenario planning. Sensitivity analysis is required (Section IV.K.) and will contribute to the identification of uncertainty drivers that make a difference.

7. Does the proposed framework provide a reasonable process for defining a reasonable number of scenarios that define a plausible range of different futures for planning decisions?

HREA Response. Yes. Included in Section IV.A of the Joint IRP Framework is a process for defining a reasonable number of scenarios. While the language stops short of requiring a specific number of scenarios that would be required to define a plausible range of different futures for planning decisions, we believe there is appropriate guidance and flexibility to determine the “reasonable number of scenarios” required on a “case-by-case” or “IRP-by-IRP” basis.

8. Does the proposed framework enable the Commission to make timely and informed decisions about the budget for the Public Benefits Fee Administrator?

HREA Response. Yes. In Section II.F.4 of the Joint IRP Framework, the PBFA is required, as part of the planning process, to provide information on the goals and costs of existing and planned energy efficiency programs

9. Does the proposed framework provide a reasonable process for assessing actions and making decisions?

HREA Response. Yes. In Section III.B. of the Joint IRP Framework, the process for assessing in the overall IRP and action plans is specified in detail, including providing timely information to Commission for regulatory decisions, such as determining: (i) whether resource option proposals are consistent with currently approved utility plans or action plans (II.D.1 and III.B.3.), and (ii) when to amend action plans (Section II.D.4).

10. Does the proposed framework provide a reasonable process for ongoing monitoring and adjustments to approved plans?

HREA Response. Yes. Per our response to question 9. above, a process is identified for the Commission to amend the action plans as necessary due to changing circumstances and possible needs to assess and decide resource option approval actions that are not consistent with currently approved action plans.

11. Does the proposed framework create an efficient, transparent process that involves all relevant decisionmaking entities?

HREA Response. Yes. In Section II.B of the Joint IRP Framework, Governing Principle 7 requires an open process, which we interpret to mean transparent (although the word “transparent” is not currently used in the Joint IRP Framework). The word “efficient” is used only once in the overall goal statement (Section II.A). Perhaps there could be some wordsmithing of the Joint IRP Framework, but it is quite clear that the Joint IRP Framework includes a number of improvements to the IRP process, including expansion of the role of the advisory groups, open access to information and modeling assumptions, and an Independent Facilitator.

12. Does the proposed timeline provide adequate time for the participants to address effectively each step of the framework?

HREA Response. HREA notes that a timeline would be established on each IRP docket. As such, the need for time to effectively address each step of the process, while at the same time moving the process along has been and we believe will continue to be a challenge.

13. Does the proposed frequency of scenario-planning cycles allow the Commission to meet its statutory responsibilities efficiently?

HREA Response. Yes. The Joint IRP Framework includes a three year major planning update cycle (Section III.B.1). Given the proposed responsibilities Commission (Section II.D), HREA believes there will be adequate time: (i) from when the Commission reviews the specific issues, questions and information to be addressed in each IRP at the beginning of each planning cycle, and (ii) for ongoing review of the preparation, submittal and review of each IRP.

DATED: December 21, 2009, Honolulu, Hawaii

A handwritten signature in black ink, reading "David J. Bolchini", is written over a horizontal line. The signature is stylized with a large initial 'D' and a prominent 'B'.

PUBLIC UTILITIES COMMISSION

STATE OF HAWAI'I

A FRAMEWORK FOR INTEGRATED RESOURCE PLANNING

March __, 2010

I. DEFINITIONS

Unless otherwise clear from the context, as used in this framework:

“Action” (as used in the context of a utility action plan) means any specific activity (resource option, study, program, measure, etc.) that the utility intends to implement in order to provide required services and/or attain planning objectives.

“Action plan” means a program implementation schedule, as part of a utility’s integrated resource plan, representing a strategy, including a timetable of programs, projects, and activities designed to meet energy objectives over the first five to ten year period of the 20-year planning horizon, including the State of Hawai‘i’s clean energy objectives.

“Capital investment costs” means costs associated with capital improvements, including planning, the acquisition and development of land, the design and construction of new facilities, the making of renovations or additions to existing facilities, the construction of built-in equipment, and consultant and staff services in planning, design, and construction. Capital investment costs for a program are the sum of the program's capital improvement project costs.

“CHP” means the production of useful heat and electricity from the same process or source.

“Clean energy” means electrical energy generated using renewable energy as a source or as electrical energy savings brought about by the use of renewable displacement or off-set technologies or energy efficiency technologies as defined as “renewable electrical energy” in HRS ch. 269, pt. V, § 269-91, as amended.

“Clean Energy Objectives” or “CE Objectives” means moving the State of Hawai‘i off of fossil fuel use and on to Clean Energy use, as mandated by federal, State and county laws (including, but not limited to, HRS ch. 269, pt. V, as amended), and as may be informed by policy statements and guidance.

“Costs” means the full and life cycle costs of a resource option.

“Cost categories” means the major types of costs and includes research and development costs, investment costs, and operating and maintenance costs.

“Cost elements” means the major subdivision of a cost category. For the category “investment costs, it includes capital investment costs, initial equipment and furnishing costs, and initial education and training costs. For the categories “research and development costs” and “operating and maintenance costs,” it includes labor costs, fuel costs, materials and supplies costs, and other current expenses.

“Demand-side management” or “DSM” means programs designed to influence utility customer uses of energy to produce desired changes in electricity demand, including, but not limited to, conservation, energy efficiency, demand response, load management, rate and fee design measures (e.g., declining block rate designs, generation hook-up fees, and standby charges), and renewable substitution.

“Design costs” means the costs related to the preparation of architectural drawings for capital improvements, from schematics to final construction drawings.

“Distributed Generation” or “DG” means electric generating technologies installed at, or in close proximity to, the end-user’s location including, but not limited to, renewable energy and combined heat and power (“CHP”) facilities, and dispatchable emergency generators.

“Effectiveness measure” means the criterion for measuring the degree to which the objective sought is attained.

“External benefits” means external economies; benefits to or positive impacts on the activities of entities outside the utility and its ratepayers. External benefits include environmental, cultural, and general economic benefits.

“External costs” means external diseconomies; costs to or negative impacts on the activities of entities outside the utility and its ratepayers. External costs include environmental, cultural, and general economic costs.

“Feed-in-Tariff” or “FIT” means a set of standardized terms and conditions, including published purchased power rates, which a utility shall pay for each type of renewable energy.

“Full cost” means the total cost of a program, system, or capability, including research and development costs, capital investment costs, and operating and maintenance costs.

“Hawai‘i Revised Statutes” or “HRS” means current State laws governing the State of Hawai‘i.

“Integrated Resource Plan” or “IRP” is a plan governed by this framework which provides mandatory guidelines for the utilities for meeting the utility’s forecasted load over time with supply-side and demand-side resources consistent with clean energy objectives.

“Investment costs” means the one-time costs beyond the development phase to introduce a new system, program, or capability into use. It includes capital investment costs, initial equipment acquisition costs, and initial education and training costs.

“Life cycle costs” means the total cost impact over the life of the program. Life cycle costs include research and development cost, investment cost (the one-time cost of instituting the program), and operating and maintenance (O&M) cost.

“Net Energy Metering” or “NEM” is a service to an electric consumer under which electric energy generated by that electric consumer from an eligible on-site generating facility (“customer-generator”) and delivered to the local distribution facilities that is used to offset electric energy provided by the electric utility to the electric consumer during the applicable billing period.

“Operating and maintenance costs” or “O&M costs” means recurring costs of operating, supporting, and maintaining authorized programs, including costs for labor, fuel, materials and supplies, and other current expenses.

“Participant impact” means the impact on participants in a demand-side management program in terms of the costs borne and the direct, economic benefits received by the participants.

“Planning objectives” are desired outcomes to be attained by actions by the utility and Public Benefits Fee Administrator.

“Program” means projects, resources and/or activities in a strategy, scenario and/or the Action Plan.

“Public Benefit Fee Administrator” or “PBF Administrator” means the third-party administrator of energy efficiency demand-side management programs as defined in HRS ch. 269, pt. VII, § 269-122.

“Ratepayer impact” means the impact on ratepayer in terms of the utility rates that ratepayers must pay.

“Research and development costs” means costs associated with the development of a new system, program, or capability to the point where it is ready for introduction into operational use. It includes the costs of prototypes and the testing of the prototypes. It includes the costs of research, planning, and testing and evaluation.

“Renewable Portfolio Standards” or “RPS” means the State of Hawai‘i’s renewable portfolio standards as defined in HRS ch. 269, pt. V.

“Request for Proposals” or “RFP” means a written request for proposals issued by an electric utility or other entity to solicit bids from interested parties for provision of

supply-side or demand-side resources or services to a utility pursuant to an applicable competitive bidding process.

“Resource option” is a program, generation unit, tariff provision, or any other measure (collectively “measures”) that would contribute to meeting energy needs or attainment of planning objectives. Resource options would include measures that could be implemented by the utility, the public benefit fee administrator or the Commission as well as those measures anticipated to be implemented by other entities (such as State of Hawai‘i programmatic governmental agency efficiency measures).

“Scenario” is a distinctive set of possible, plausible circumstances that would have a major effect on resource planning decisions. Scenarios would be explicitly identified in the planning process in order to (a) provide an appropriate breadth to the scope of plausible analysis assumptions utilizing stakeholder participation, (b) frame meaningful planning objectives and measures of attainment and (c) test the “robustness” of candidate strategies with respect to a range of possible future circumstances. Scenarios could be formulated based on possible circumstances including those that are outside the control of the utilities and Commission and those that based on major “game changing” resource strategies (such as an inter-island cable system).

“Societal cost” means the total direct and indirect costs to society as a whole. Society includes the utility and, in a demand-side management program, the participants.

“Societal cost-benefit assessment” means an assessment of the costs and benefits to society as a whole.

“Strategy” is a set of perspective resources and actions that are designed to meet the planning objectives. A strategy is similar to what the HECO Companies have referred to as “candidate plans” in the IRP applications filed under the existing IRP Framework except that a strategy could also include appropriate contingency planning, parallel planning measures to address future uncertainties. In the planning process each strategy would be assessed with respect to the various identified scenarios. An action plan would be identified to implement a preferred strategy and/or to maintain flexibility to implement more than one possible preferred strategy or one or more contingency strategies.

“Supply-side programs” means programs designed to supply power either to the utility grid or to a particular customer or entity, including, but not limited to, renewable energy, CHP, and independent power producers.

“Total resource cost” means the total cost of a demand-side management program, including both the utility and participants' costs.

“Utility” or “Public Utility” an organization that maintains the infrastructure for a public service (often also providing a service using that infrastructure). In the case of electrical service, the organization can be privately-owned, such as Hawaiian Electric Company, Inc., the Hawaii Electric Light Company, Inc., the Maui Electric Company, Ltd., or

publicly-owned such as a municipal, or member-owned such as a cooperative, as in the case for Kauai Island Utility Cooperative. Other public utilities can provide natural gas (or as in the case of The Gas Company, propane and synthetic gas), water or sewage services.

“Utility cost” means the cost to the utility (including ratepayers), excluding costs incurred by participants in a demand-side management program.

“Utility cost-benefit assessment” means an assessment of the costs and benefits to the utility.

II. INTRODUCTION

A. Goal of Integrated Resource Planning

The goal of integrated resource planning is to employ a comprehensive and flexible planning process to develop and implement integrated resource plans which shall govern utility acquisition and utilization of all capital projects, purchased power, and demand-side management toward achieving and exceeding Clean Energy Objectives (“CE Objectives”) in an efficient, economical, and prudent manner that promotes Hawai‘i as a leader in the adoption and use of clean energy and facilitates Hawai‘i’s swift transition to a clean energy future.

B. Governing Principles (Statements of Policy)

1. The development of integrated resource plans are the responsibility of each utility, in consultation with advisory group(s), non-utility stakeholders, and the public, and with the oversight and approval of the commission.
2. Integrated resource plans shall comport with federal, state, and county environmental, health, and safety laws and formally adopted state and county plans.
3. Integrated resource plans shall be developed upon consideration and analyses of the short- and long-term costs, benefits, and risks associated with all appropriate and feasible supply-side and demand-side distributed generation and energy management resources
4. Integrated resource plans shall consider technological advances in the utility’s transmission and distribution infrastructure plans such as advanced data acquisition and system controls (i.e., smart grid), energy storage, or changes in the utility’s operating procedure.
5. Integrated resource plans shall consider the plans’ impact on utility customers, environmental and cultural resources, the local economy, and the broader society.

6. Integrated resource plans shall take into consideration a utility's financial integrity, size, and physical capability.
7. Integrated resource planning shall be an open public process which shall maximize public involvement to enable mutual collaboration, communication, and feedback between the utility and non-utility stakeholders and the public and create broad-based awareness and support for achieving and exceeding CE Objectives.
8. A utility and intervenors are entitled to recover all appropriate and reasonable integrated resource planning costs as approved by the Commission.
9. Integrated resource plans shall prioritize and encourage the increased use of distributed generation over centralized fossil-based generation.
10. Integrated resource plans shall seek to achieve and exceed CE Objectives, including the economic and environmental benefits associated with achievement of energy independence.
11. Integrated resource plans shall take into consideration the need to prevent or minimize power outages during and after disaster situations.
12. Integrated resource planning shall be based upon and incorporate to the extent reasonable the successful elements of the planning process utilized by utilities and Independent System Operators working in conjunction with various stakeholders in other jurisdictions.
13. Integrated resource plans shall prioritize resource acquisition and integration such that demand-side management programs and renewable energy resources are first optimized before consideration is given to fossil-based resources.
14. No customer or third party shall be required to disclose confidential information during the collection of data for integrated resource planning-related proposals or programs.
15. Integrated resource plans shall address all technical barriers to achieving CE Objectives.

C. Utility's Responsibility

1. Each utility is responsible for developing and maintaining a plan or plans for meeting the energy needs of its customers.
2. The utility shall prepare and submit to the commission for commission review at the time or times specified by the commission the utility's integrated resource plan and action plan.

3. The utility shall maintain at all times a current and up-to-date resource analysis capability and respond to requests for information and analysis by the commission.
4. The utility shall maintain and make publicly available at all times a current and up-to-date action plan.
5. The utility shall maintain and make publically available at all times current and up-to-date information regarding its avoided costs, renewable energy and capacity wholesale purchase tariffs and all current, pending or planned resource acquisition tariffs, programs, requests for proposals or bid offerings.

D. Commission's Responsibility

1. The commission's responsibility, in general, is to review the utility's plans and planning assumptions and determine whether they represent a reasonable set of assumptions for evaluating capital projects, resource acquisition programs, contracts or other utility commitments for meeting the energy needs of the utility's customers and is in the public interest and consistent with the goals and objectives of integrated resource planning.
2. The commission will review the utility's integrated resource plan, its program implementation schedule, and its evaluations, and generally monitor the utility's implementation of its plan. Upon review, the commission may approve, reject, approve in part and reject in part or require modifications of the utility's integrated resource plan, action plan and planning assumptions.
3. The commission will require the provision of planning information and analysis by the utility as necessary at any time to provide context and information in any regulatory matters before the commission. The commission will decide at the time it requires any information or analysis the extent to which the integrated resource plan advisory group(s), parties and/or participants will be allowed to provide responses to the commissions request for information and/or comments regarding the utility's response(s).
4. The commission staff (or one or more commissioners) may preside over part of occasional advisory group meetings to invite and obtain comments and positions of advisory group members.
5. The commission may, as it finds necessary, issue orders to provide relief (i.e., require consideration by the utility of certain circumstances, resources or scenarios) recommended by advisory group members, parties or participants.

E. Consumer Advocate's Responsibility

1. The director of commerce and consume affairs, as the consumer advocate and through the division of consumer advocacy, has the statutory responsibility to represent, protect, and advance the interest of consumers of utility services. The consumer advocate, therefore, has the duty to ensure that the utility's integrated resource plan promotes the interest of utility consumers.
2. The consumer advocate shall be a party to each utility's integrated resource planning docket and a member of any and all advisory groups established by the utility in the development of its integrated resource plan. The consumer advocate shall also participate in all public hearings and other sessions held in furtherance of the utility's efforts in integrated resource planning.

F. Public Benefit Fee Administrator's Responsibility

1. The Public Benefit Fee Administrator (PBFA) is a contractor to the Commission and has a unique role as a provider of ratepayer funded energy services.
2. The energy efficiency programs managed by the PBFA serve purposes that are closely integrated with the services provided by the energy utilities. Together, the programs managed by the PBFA and the services provided by the energy utilities need to meet energy consumer needs reliably and economically. The PBFA programs serve as important components of utility plans, can serve as alternatives to or means to defer utility capital expenditures, and are relied upon by the utilities to meet energy service requirements. It is therefore necessary that utility planning include consideration of the optimal targeting, design objectives and role of the PBFA energy efficiency programs in the context of utility plans.
3. The specific design of the energy efficiency programs managed by the PBFA, however, must reside with the PBFA to the extent that the PBFA is responsible for the efficacy of these programs and to the extent specified by contract or otherwise determined by the commission.
4. The PBFA should be a participant in the utility planning process and should have a unique role as the primary implementer of a fundamental component of Hawai'i's energy utility resource strategy. The PBFA should provide information to the utility planning process regarding the nature of existing, planned and potentially feasible programs, the expected cost and impacts of these programs as well as any other relevant issues or uncertainties. The utility planning process should evaluate the existing, planned and potentially feasible energy efficiency programs to determine which are the most cost-effective in terms of avoiding short run and long

run utility costs, the extent to which these programs can meet utility and State planning objectives and how these programs might best be targeted geographically or temporally.

5. The PBFA and the utility shall cooperate interactively to determine an optimal portfolio of programs to be implemented by the PBFA.

III. THE PLANNING CONTEXT

A. Major Steps

There are four major steps in the integrated resource planning process: planning, programming, implementation, and evaluation.

1. Planning is that process in which the utility's needs are identified; the utility's objectives are formulated; measures by which effectiveness in attaining objectives are specified; the alternatives by which the objectives may be attained are identified; the full cost, effectiveness, and benefit implications of each alternative are determined; the assumptions, risks, and uncertainties are clarified; the cost, effectiveness, and benefit tradeoffs of the alternatives are made; the resource options are examined, screened and evaluated; and resource and program choices are subjected to sensitivity analyses. The product of this process is the utility's integrated resource plan. The planning horizon for utility integrated resource plans is 20 years.
2. Programming is that process by which the utility's long-range resource program plans are scheduled for implementation over a five to ten-year period. In this process, a determination is made as to the order in which the selected program options are to be implemented; the phases or steps in which each program is to be implemented; the expected target group and the annual size of the target group or annual level of penetration of demand-side management programs; the expected annual supply-side capacity additions; the expected annual levels of effectiveness in achieving integrated resource planning objectives; and the annual expenditures, by cost categories and cost elements, required to be made by the utility to support implementation of the programs. The result of this process is an action plan. The action plan represents an implementation strategy and timetable for program implementation. The action plan shall address utility actions for a five to ten year period.
3. Implementation is that process by which the resource program options to be implemented are acquired and instituted in accordance with the utility's program implementation schedule.
4. Evaluation is that process by which the results of the resource program options are measured in light of the utility's objectives. In this process the

actual costs, effectiveness, and benefits of the resource options and the attainment of the utility's objectives are measured against those that were projected in the planning and programming stages of the planning cycle.

B. The Planning Cycle

There are four main components of the integrated resource planning cycle:

1. **Three Year Major Review.** A major review of the utility twenty-year integrated resource plan, planning assumptions and action plan(s) each three years:
 - a. The commission will initiate each three year planning cycle by establishing one or more dockets to administer the planning process for each utility with a three-year cycle for major reviews.
 - (1) The commission shall establish one or more advisory groups for each utility and/or for several energy utilities collectively.
 - (2) The commission may establish one or more technical advisory groups or technical advisory committees within advisory groups to assist in monitoring, evaluating and interpreting the assumptions, modeling and analysis utilized in the preparation of the utility integrated resource plans and action plans.
 - b. At the beginning of each three-year IRP review cycle the commission may (independently or after a public meeting) specify:
 - (1) questions and issues that the specific round of IRP analysis and the resulting plan should address, and
 - (2) any specific objectives or scenarios that should be considered in that specific round of IRP analysis.
 - c. The three year planning cycle shall establish and review:
 - (1) planning assumptions (projected demand, fuel prices, resource characteristics), including identification of possible future scenarios to be considered in developing plans and action plans.
 - (2) analytical methods (integration modeling, rate impact analyses, etc), including methods to consider identified scenarios.
 - (3) a base long range (20 year) resource plan.

- (4) a five year (or longer) action plan.

2. Ongoing Analysis and Planning Capability.

- a. Each utility would maintain a modeling and analysis capability that is current and up to date at all times.
 - (1) On an ongoing basis, the utility shall update all important planning assumptions, forecasts, demand estimates, etc. as frequently as circumstances require and configure the planning process analytical models accordingly.
 - (2) The utility shall notify the commission and shall notify and solicit comments to be forwarded to the commission from all planning docket parties and advisory group(s) whenever planning assumptions are updated.
- b. As needed for any regulatory purposes, the commission will request prompt and timely analysis from the utilities based on current, up-to-date planning assumptions.
 - (1) In the context of any docket, the commission may issue information requests to the utility requesting information and/or analysis based on current planning assumptions and modeling analysis capability.
 - (2) Planning docket parties and utility advisory group members shall be notified of any requests for information or analysis and documents shall be made available via the Commission's Document Management System.
 - (3) The commission may, at its discretion, issue any information requests and/or responses by the utility to the planning docket parties or participants, the advisory group(s) or any technical advisory group(s) or committee(s) for review and comment.

3. Current Action Plan.

- a. Each utility shall maintain a current, up-to-date action plan at all times.
 - (1) To the extent that circumstances or changes in planning assumptions substantially affect the merits of the base resource plan or action plan, the Commission, parties and advisory group shall be notified.

- (2) Action plans shall be updated in accordance with supporting analytical methods and with the informed advice of the parties and advisory group.
 - b. Modified (updated) action plans would be prospective pending any explicit approval of any action plan components by the commission but would always be kept up-to-date and publicly accessible to inform all stakeholders of current planning assumptions presumed by the utility.
 - (1) Actions proposed by the utility in any docket before the commission would be reviewed by the commission in light of the current, most recently approved action plan.
 - (2) If proposed actions are not consistent with the most recently approved action plan, the proposed actions must be consistent with the current updated action plan which should be reviewed by the commission prior to or concurrently with the commission's review of the proposed action with the informed advice of the planning docket parties and advisory group(s).
 - c. Any approval of modifications to the utility integrated resource plan or action plan in a docket that considers actions not consistent with the approved utility integrated resource plan or approved action plan shall be made with the informed advice of the planning docket parties and participants in the advisory group(s). The utility shall specify and, after opportunity for comment by the planning docket parties and participants in the advisory group(s), the commission shall determine:
 - (1) The extent to which any proposed actions are not consistent with the approved integrated resource plan and approved action plan.
 - (2) The extent to which any proposed actions would affect any other aspects of the approved integrated resource plan and approved action plan.
 - (3) Whether the proposed actions and resulting associated changes in the integrated resource plan and action plan are reasonable and in the public interest.
- 4. Evaluations.
 - a. As required by the commission each utility shall provide evaluations of the implementation of integrated resource plans,

action plans and the attainment of planning objectives and statutory objectives.

C. The Docket

1. Each planning cycle for a utility will commence with the issuance of an order by the commission opening a docket for integrated resource planning.
2. The docket will be maintained throughout the planning cycle for the filing of documents, the resolution of procedural disputes and other purposes related to the utility's integrated resource plan.
3. Within 30 days after the opening of the docket or, if petitions to intervene are filed within twenty days of the opening docket, by a date specified by the commission, the utility and parties shall prepare, and file with the commission a proposed procedural order and procedural schedule for the development of the utility integrated resource plan and action plan.
 - a. The procedural schedule shall identify several stages of the planning process and specify dates, at each stage, for filings with the commission by the utility and parties and allowing filing of comments by participants in the advisory group(s). Stages shall include:
 - (1) Identification and determination of scenarios and planning assumptions.
 - (2) Identification and determination of analytical methods and models including methods to evaluate identified scenarios.
 - (3) Identification of candidate resource strategies to be evaluated.
 - (4) Proposed integrated resource plan(s) and action plan(s).
4. The utility shall complete its integrated resource plan and program implementation schedule within one year of the commencement of the planning cycle or according to a schedule approved by the commission.
5. Any party or advisory group member could petition the Commission at any time requesting the Commission's attention to review or take action regarding changes to planning assumptions or changes in action plans.
 - a. Parties or participants may request relief from the Commission by motion.

- b. Parties, participants or advisory group members may petition the commission for action regarding changes to planning assumptions, long range plans or action plans by an informally by letter. Any such requests will conform to the requirements in the commission's existing rules regarding informal complaints.

D. Submissions to the Commission

- 1. In each three year general review, the utility shall submit its integrated resource plan as follows.
 - a. The utility shall include in its integrated resource plan a full and detailed description of (1) the generation, major distribution, and transmission needs identified; (2) the forecasts made, including supply- and demand-side distributed generation forecasts; (3) the assumptions underlying the forecasts; (4) the objectives to be attained by the plan; (5) the measures by which achievement of the objectives is to be assessed; (6) the resource options or mix of options included in the plan; (7) the assumptions and the basis of the assumptions underlying the plan; (8) the risks and uncertainties associated with the plan; (9) the revenue requirements on a present value basis and on an annual basis; (10) the expected impact of the plan on demand; (11) the expected achievement of objectives; (12) the potential impact of the plan on rates and consumer bills, including any potential rate and billing impacts due to possible rate equalization measures between utility service territories, and consumer energy use; (13) the plan's external costs and benefits; and (14) the relative sensitivity of the plan to changes in assumptions and other conditions. The items enumerated should, where appropriate, be described for the plan as a whole and for each of the resources or mix of resources included in the plan.
 - b. The utility shall file with the integrated resource plan a full and detailed description of the analysis or analyses upon which the plan is based. The utility shall fully describe, among other things, (1) the data (and the source of the data) upon which needs were identified and forecasts made; (2) the methodologies used in forecasting; (3) the various objectives and measures of assessing attainment of objectives that were considered, but rejected, and the reasons or rejecting any objective or measure; (4) the resource options that were identified, but screened out and not considered and the reasons for the rejection of any resource option; (5) the assumptions and the basis of the assumptions, the risks and uncertainties, the costs, effectiveness, and benefits (including external costs and benefits) and the impacts on demand, rates, consumer bills, and consumer energy uses associated with each resource option or mix of options that was considered; (6) the

comparisons and the cost, effectiveness, and benefit tradeoffs and optimization made of the options and mixes of options; (7) the models used in the comparisons, tradeoffs, and optimization; (8) the criteria used in any ranking of options and mixes of options; and (9) the sensitivity analyses conducted for the options and mixes of options.

- c. The utility shall also file with the integrated resource plan a description of all alternate plans that the utility developed, the ranking it accorded the various plans, the criteria used in such ranking, and a full and detailed explanation of the analysis upon which it decided its preferred integrated resource plan.
 - d. The submissions should be simply and clearly written and, to the extent possible, in non-technical language. Charts graphs, and other visual devices may be utilized to aid in understanding its plan and the analyses made by the utility. The utility shall provide an executive summary of the plan and of the analyses and appropriately index its submissions.
2. In each three year general review, the utility shall submit its action plan as follows.
- a. The utility shall include in the action plan by year: the programs or phases of programs to be implemented in the year; the expected level of achievement of objectives; the expected size of the target group or level of penetration of any demand-side management program; the expected supply-side capacity addition; the expenditures, by cost categories and cost elements, required to be made by the utility to support implementation of each program or phase of a program.
 - b. The utility shall file with its action plan a full and detailed description of the analysis upon which the schedule is based. The utility shall fully describe, among other things:
 - (1) The steps required to realize and implement the supply-side and demand-side resource programs included in the schedule.
 - (2) How the target groups were selected and how program penetration for demand-side management programs and the expected levels of effectiveness in achieving integrated resource planning objectives were derived.
 - (3) The expected annual effects of program implementation on the utility and its system, the ratepayers, the environment,

public health and safety, cultural interests, the state economy, and society in general.

- c. The program implementation schedule shall also be accompanied by the utility's proposals on cost and revenue loss recovery and incentives, as appropriate.
 - d. The utility shall include the expected transmission system additions and the estimated cost required to be made by the utility to support the implementation of the transmission additions.
 - e. The utility shall include the identification of the expected major distribution system additions.
 - f. The utility shall include identification of smart grid improvements and upgrades to the utility system and the estimated cost required to be made by the utility to support the implementation of any smart grid improvements.
3. The utility shall regularly update its action plan as circumstances require so as to always maintain a current and up-to-date action plan.
- a. The utility shall make, on an ongoing basis, an assessment of the continuing validity of the forecasts and assumptions upon which its integrated resource plan and its action plan were fashioned.
 - b. The utility shall also include for each program or phase of program included in the action plan current information as follows:
 - (1) The expenditures anticipated to be made and the expenditures actually made for each program or action identified in the action plan.
 - (2) The target group size or level of penetration anticipated for each demand-side management program and the size or level actually realized.
 - (3) The effects of program implementation anticipated and the effects actually experienced.
4. The utility may at any time, as a result of a change in conditions, circumstances, or assumptions, revise or amend its integrated resource plan or its action plan. Modified (updated) action plans would be prospective pending any explicit approval of any action plan components by the commission but would always be kept up-to-date and publicly accessible to inform all stakeholders of current planning assumptions presumed by the utility.

5. The integrated resource plan and action plan shall serve as the context and analytical basis for the regulation of all utility expenditure for capital projects, purchased power, and demand-side management programs. Notwithstanding approval of an integrated resource plan: (a) an expenditure for any capital project in excess of \$2,500,000 shall be submitted to the commission for review as provided in paragraph 2.3.g.2 of General Order No.7; and (b) no obligation under any purchased power contract shall be undertaken and no expenditure for any specific demand-side management or demand response program included in an integrated resource plan or action plan shall be made without prior commission approval. All power purchases from qualifying facilities and independent power producers shall be subject to statute and commission rules.
6. The commission, upon a showing that a utility has an ownership structure in which there is no substantial difference in economic interests between its owners and customers, may waive or exempt that utility from any or all provisions of this framework, as appropriate.

E. Public Participation

To maximize public participation in each utility's integrated resource planning process, opportunities for such participation shall be provided through advisory groups to the utility, public hearings, and interventions in formal proceedings before the commission.

1. Advisory groups
 - a. The commission shall organize a group or groups of representatives of public and private entities to provide independent review and input to each utility and the commission in the integrated resource planning process. Different advisory groups or committees within an advisory group may be formed for different issues related to the planning process, as appropriate.
 - b. An independent facilitator appointed by the commission shall chair each advisory group. The costs of the independent facilitator shall be paid for by the utility, subject to recovery as part of its costs of integrated resource planning. The commission, by its staff or one or more commissioners, may participate in advisory group meetings to receive input from advisory group members.
 - c. The membership of each advisory group shall be independent of any utility and be able to provide significant perspective or useful expertise in the development of the utility's integrated resource plan. The commission shall establish the membership of each advisory group as follows:

- (1) Governmental members of each advisory group shall include, at minimum, the Consumer Advocate or the Consumer Advocate's designee, the director of the State of Hawai'i Department of Business, Economic Development & Tourism or the director's designee, and the mayor of the county in which the utility in question provides service or conducts utility business or the mayor's designee.
 - (2) Nongovernmental members shall include representatives of environmental, cultural, business, consumer, and community interests, and individuals with useful expertise in each county in which the utility provides service or conducts utility business.
 - (3) Parties admitted into the integrated resource planning docket shall be allowed to participate as advisory group members, as the commission deems appropriate.
 - (4) Each advisory group shall be representative of as broad a spectrum of interests as possible, subject to the limitation that the interests represented should not be so numerous as to make deliberations as a group unwieldy.
- d. Each advisory group shall hold meetings during key phases of a utility's integrated resource planning process, with a minimum of quarterly meetings and more frequent meetings to the extent meaningful and practical.
 - e. If a utility is considering the use of an energy resource located in another utility's service territory, then that utility shall confer with the advisory group representing the service territory of the energy resource under consideration.
 - f. Each utility shall provide all data reasonably necessary for an advisory group to participate in that utility's integrated resource planning process, subject to the need to protect the confidentiality of customer-specific and proprietary information, provided that such customer-specific and proprietary information shall not be withheld where there are mechanisms to protect confidentiality.
 - g. An advisory group participating in a utility's integrated resource planning process, or qualified person(s) representing the advisory group, shall be permitted to inspect and evaluate that utility's modeling, including but not limited to reviewing the inputs the utility has used for the modeling.
 - h. Upon request from an advisory group, the Consumer Advocate, the State of Hawai'i Department of Business, Economic Development

& Tourism, or a county represented in the advisory group, the utility shall use its modeling tools to run alternative scenarios based on alternate assumptions. At the utility's request, the commission may limit requests that are unduly repetitious or burdensome.

- i. The Public Benefits Fee Administrator shall provide all data reasonably necessary for an advisory group to participate in developing and evaluating forecasts of energy efficiency programs.
 - j. The use by the advisory groups of the collaborative process is encouraged to arrive at a consensus regarding recommendations or findings on issues. If consensus is not possible, recommendations or findings of an advisory group may be made by the vote of not less than the majority of the entire membership of that advisory group.
 - k. If a utility does not follow a recommendation or finding of an advisory group, it must provide to the advisory group and file with the commission a detailed justification why the recommendation or finding should not be adopted. The advisory group and/or its members shall have an opportunity to respond to the filing.
 - l. At any point during the integrated resource planning process, an advisory group or one or more of its members may request interim relief from the commission to resolve a significant dispute with the utility in the implementation of the planning process. Such a request will be handled as an informal complaint under the commission's rules.
 - m. All reasonable out-of-pocket costs incurred by the members of the advisory groups (other than governmental agencies) participating in a utility's integrated resource planning process shall be paid for by that utility, subject to recovery as part of that utility's cost of integrated resource planning.
2. Public input
- a. Each utility is encouraged to conduct public meetings or provide public forums at the various, discrete phases of the planning process for the purpose of securing public input.
 - b. Prior to filing a request for approval of an integrated resource plan, each utility shall provide an opportunity for public review and comment on the proposed plan during a period of not less than sixty (60) days. During each such public comment period, the utility shall hold at least one public hearing on each island that would be affected by the proposed integrated resource plan at

which the public will have the chance to ask questions, seek clarification, raise concerns, and make comments and suggestions.

- c. Each utility preparing an integrated resource plan shall assess and consider comments received during the public review and comment period and shall respond by one or more of the means listed below, stating its response in the request for approval filed with the commission:
 - (1) Modify the plan;
 - (2) Develop and evaluate alternatives not previously given serious consideration by the utility;
 - (3) Supplement, improve, or modify its analysis;
 - (4) Make factual corrections; and/or
 - (5) Explain why the comments do not warrant further response, citing the sources, authorities, or reasons that support the utility's position and, if appropriate, indicate those circumstances that would trigger utility reappraisal or further response.
- d. Upon the filing of requests for approval of an integrated resource plan, the commission may, and it shall where required by statute, conduct public hearings for the purpose of securing additional public input on the utility's proposal. The commission may also conduct such informal public meetings as it deems advisable.

3. Intervention

- a. Upon the filing of its integrated resource plan, the utility shall cause to be published in a newspaper of general circulation in the State a notice informing the general public that the utility has filed its proposed integrated resource plan with the commission for the commission's approval. The commission and the utility shall also post such public notice online on their respective websites.
- b. To encourage public awareness of the filing of a proposed utility plan, a copy of the proposed plan and the supporting analysis shall be available for public review at the commission's office and at the office of the commission's representative in the county serviced by the utility. The commission and the utility shall provide electronic copies of these documents online on their respective websites. Each utility shall note the availability of the documents for public review at these locations in its published notice. The utility shall make copies of the executive summary of the plan and the analysis

available to the general public at no cost, except the cost of duplication.

- c. Applications to intervene or to participate without intervention in any proceeding in which a utility seeks commission approval of its integrated resource plan are subject to the rules prescribed in part IV of the commission's General Order No.1 (Practice and Procedure before the Public Utilities Commission); except that such applications may be filed with the commission not later than 20 days after the publication by the utility of a notice informing the general public of the filing of the utility's application for commission approval of its integrated resource plan, notwithstanding the opening of the docket before such publication.
- d. A person's status as an intervenor or participant shall continue through the life of the docket, unless the person voluntarily withdraws or is dismissed as an intervenor or participant by the commission for cause.

4. Intervenor funding

- a. Upon the issuance of the commission's final order on a utility's integrated resource plan or any amendment to the plan, the commission may grant an intervenor or participant (other than a governmental agency, a for-profit entity, and an association of for-profit entities) recovery of all or part of the intervenor's or participant's direct out-of-pocket costs reasonably and necessarily incurred in intervention or participation. Any recovery and the amount of such recovery are in the sole discretion of the commission.
- b. To be eligible for such recovery:
 - (1) The intervenor or participant must show a need for financial assistance;
 - (2) The intervenor or participant must maintain accurate and meaningful books of account on the expenditures incurred; and
 - (3) The commission must find that the intervenor or participant made a substantial contribution in assisting the commission in arriving at its decision.
- c. The intervenor's or participant's books of account are subject to audit, and the commission may impose other requirements in any specific case.

- d. Such recovery may be provided upon the application of the intervenor or participant within 30 days after the issuance of the commission's final order (or the entry of a settlement between the parties), together with justification and documented proof of the costs incurred.
- e. The commission may provide for recovery via periodic installments during the course of a proceeding. To be eligible for this option, the intervenor or participant shall file a notice of intent to seek recovery and an estimated budget within 30 days after being granted intervention or participation. The intervenor or participant may thereafter make periodic applications for recovery during the proceeding, within the final deadline specified above. The intervenor or participant may request to revise the estimated budget as appropriate.
- f. The costs of intervenor funding shall be paid for by the utility, subject to recovery as part of its costs of integrated resource planning.

IV. PLANNING CONSIDERATIONS

A. Scenarios

Each utility, in consultation with advisory group(s), shall develop scenarios to guide integrated resource planning, including but not limited to possible assumptions, regarding future demand, the availability, characteristics and costs of resource options, and other principal factors that would affect the determination of prudent integrated resource plans. Scenarios may be based on circumstances outside the control of the utilities and commission (e.g., major increases in oil prices) or within their control (e.g., a major resource strategy). A sufficient number and range of scenarios should be developed to (1) incorporate a broad range of perspectives and input from non-utility stakeholders and the public; (2) provide meaningful breadth to the scope of analysis and assumptions; (3) frame meaningful planning objectives and measures of attainment; and (4) test the robustness of candidate strategies with respect to a range of possible future circumstances and risks.

B. Forecasts

Forecasts shall be conducted with respect to each scenario to inform the development of each utility's integrated resource plan.

- 1. Demand
 - a. The utility, in consultation with advisory group(s), shall develop a range of forecasts of the amount of energy demand over the planning horizon.

- b. Each forecast shall identify the significant demand and use determinants; describe the data, the sources of the data, the assumptions (including assumptions about fuel prices, energy prices, economic conditions, demographics, population growth, technological improvements, and end-use), and the analysis upon which the forecast is based; indicate the relative sensitivity of the forecast result to changes in assumptions and varying conditions; and describe the procedures, methodologies, and models used in the forecast, together with the rationale underlying the use of such procedures, methodologies, and models.
 - c. Among the data to be considered are historical data on energy sales, peak demand, system load factor, system peaks, and such other data of sufficient duration to provide a reasonable basis for the utility's estimates of future demand.
 - d. As feasible and appropriate, the forecast shall be by the system as a whole and by customer classes.
2. Demand-Side Management
- a. Energy Efficiency: The PBFA shall work with each utility and advisory group(s) to develop a range of forecasts of the potential development of energy efficiency programs over the planning horizon.
 - b. Load management: Each utility shall work with the PBFA and advisory group(s) to develop a range of forecasts of the potential development of demand response and load management programs, including rate and fee design measures, over the planning horizon.
3. Distributed Generation
- Each utility shall work with advisory group(s) to develop a range of forecasts of the amount of distributed generation development and penetration via NEM, FIT, and other means.

C. Objectives

- 1. The ultimate objective of each utility's integrated resource plan is to achieve and exceed Clean Energy Objectives in meeting the energy needs of the utility's customers over the ensuing 20 years.
- 2. Each utility, in consultation with advisory group(s), shall identify a meaningful set of planning objectives for its integrated resource plan and shall identify more specific, shorter-term objectives for its action plans to facilitate achievement the objectives of the integrated resource plan and provide benchmarks to measure progress.

3. The commission may specify objectives for the integrated resource plan or action plans.
4. An advisory group may recommend objectives for the integrated resource plan or action plans to the utility or the commission.

D. Effectiveness Measures

1. The integrated resource plan and action plans shall specify the measures by which attainment of the objective or objectives is to be determined.
2. Where direct, quantifiable measures are not available, proxy measures may be used.

E. Resource Options

1. In the development of its integrated resource plan, the utility shall consider all feasible supply-side and demand-side resource options appropriate to Hawai'i and available within the years encompassed by the integrated resource planning horizon to meet the stated objectives.
2. The utility shall include among the options the supply-side and demand-side resources or mixes of options currently in use, promoted, planned, or programmed for implementation, as well as potential or planned retirements of existing resources in favor of clean energy resources. Supply-side and demand-side resource options include those resources that are or may be supplied by persons other than the utility.
3. The utility shall initially identify all possible supply-side and demand-side resource options. The utility may, upon review and consultation with advisory group(s), screen out those options that are clearly infeasible. The utility, in consultation with advisory group(s), may establish criteria for screening out clearly infeasible options.

F. Data Collection

1. For each feasible resource option, the utility shall determine its life cycle costs and benefits and its potential level of achievement of objectives. The utility shall identify the option's total costs and benefits--the costs to the utility and its ratepayers and the indirect, including external (spillover) costs and benefits. External costs and benefits include the cost and benefit impact on the environment, people's lifestyle and culture, and the State's economy.
2. To the extent helpful in analysis, the utility shall distinguish between fixed costs and variable costs and between sunk costs and incremental costs; and the utility shall identify any opportunity costs.

3. The costs and benefits shall, to the extent possible and feasible, be (a) quantified and (b) expressed in dollar terms. When it is neither possible nor feasible to quantify any cost or benefit, such cost or benefit shall be qualitatively measured. The methodology used in quantifying or in qualitatively stating costs and benefits shall be detailed.

G. Assumptions; Risks; Uncertainties

1. The utility shall identify the assumptions underlying any resource option or the cost or benefit of any option or any analysis performed.
2. The utility shall also identify the risks and uncertainties associated with each resource option.
3. The utility shall further identify any technological limitations, infrastructural constraints, legal and governmental policy requirements, and other constraints that impact on any option or the utility's analysis.

H. Models

1. The utility may utilize one or more generally accepted planning models or methodologies in comparing resource options and otherwise in analyzing the relative values of the various options or combinations of options.
2. Each model or methodology used must be fully described, documented, and explained in terms that a layperson can understand.

I. Analyses

1. The utility shall conduct analyses to compare and weigh the various options and various alternative mixes of options. Alternative mixes of options include variously integrated supply-side and demand-side management programs.
2. The utility shall conduct such analyses from varying perspectives, including, as appropriate, the utility cost-benefit perspective, the ratepayer impact perspective, the participant impact perspective, the total resource cost perspective, and the societal cost-benefit perspective.
3. The utility shall analyze all options on a consistent and comparable basis. It shall give the costs, effectiveness, and benefits of demand-side management options consideration equal to that given to the costs, effectiveness, and benefits of supply-side options. The utility may use any reasonable and appropriate means to assure that such equal consideration is given.
4. The utility shall compare the options on the present value basis. For this purpose, the utility shall discount the estimated annual costs (and benefits,

as appropriate) at an appropriate rate. The utility shall fully explain the rationale for its choice of the discount rate.

5. The utility shall prioritize the various options and mixes of options based on the goal and principles set forth in Part II.A & B, supra, and upon such reasonable additional criteria as it may establish in consultation with advisory group(s).

J. Resource Optimization

1. The utility, in consultation with advisory group(s), shall develop a number of alternative strategies to meet the planning objectives. Strategies may be based on any of various themes, including addressing specific scenarios or featuring specific resource options. A sufficient spectrum of strategies should be developed and analyzed to consider the scope of the identified plausible resource options and planning scenarios.
2. Based on its analyses, the utility, in consultation with advisory group(s), shall select those resource options or strategies that best achieve the planning objectives considered across the range of scenarios.
 - a. The options or strategies shall be selected in a fashion as to achieve an integration of supply-side and demand-side options.
 - b. The selection of options or strategies constitutes the utility's integrated resource plan.
3. For each strategy, the utility shall identify the revenue requirements on a present value and annual basis. It shall note the risks and uncertainties and describe the strategy's impact on rates, customer energy use, customer bills, and the utility system. It shall also describe the strategy's impact on external elements--the environment, people's lifestyle and culture, the State's economy, and society in general.
4. The utility shall rank the various strategies, based on such criteria as it may establish in consultation with advisory group(s). The utility shall designate one or some combination of these strategies as its preferred plan and submit to the commission the preferred plan as its proposed integrated resource plan, along with the alternative plans. It is recognized that the proposed integrated resource plan may not be the least expensive strategy and may include resource options and/or contingency measures to reasonably attain the planning objectives in light of uncertainty regarding the planning scenarios.

K. Sensitivity Analysis

The utility shall subject its selection of resource options to sensitivity analysis by altering assumptions and other parameters.

CERTIFICATE OF SERVICE

The foregoing HREA FSOP was served on the date of filing by Hand Delivery or electronically transmitted to each such Party as follows.

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A handwritten signature in black ink, appearing to read "Alan J. Bollman", with a stylized flourish at the end. The signature is positioned above a horizontal line.

DATED: Honolulu, Hawaii, December 21, 2009